



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:

OSB1998-0046

November 25, 1998

Don Ostby  
Forest Supervisor  
Umpqua National Forest  
P.O. Box 1008  
2900 Stewart Parkway  
Roseburg, Oregon 97470

Re: Section 7 consultation on actions affecting Umpqua River cutthroat trout and Oregon Coast coho salmon

Dear Mr. Ostby:

This responds to requests for consultation on actions that you feel are “likely to adversely affect” (LAA) Umpqua River cutthroat trout (UR cutthroat). In a July 29, 1998 letter, you requested that Endangered Species Act (ESA) consultation be completed on two road-related actions for which the Umpqua National Forest (UNF) had initiated consultation per a March 24, 1998 letter. Consultation had not been completed on the LAA actions described in the March 24 letter because of the reorganization of consultation procedures that has occurred in response to Judge Rothstein’s April 28, 1998 ruling on several ESA consultations in the Umpqua River basin. Your July 29 submission is intended to supplement the Biological Assessment (BA) on these actions provided with your March 24 letter, and you believe that your submission on these two actions responds to the perceived shortcomings identified in the litigation. Additionally, in an August 13, 1998 letter, you requested consultation on the Tiller Ranger District’s 1998 grazing program and submitted a BA that describes the action. We will address all three of these LAA actions in this letter, the purpose of which is to document our biological opinion (BO) that the proposed actions are not likely to jeopardize the continued existence of the potentially affected anadromous salmonid species listed under the ESA, as explained below.

The BAs and supplemental information you provided describe the environmental baseline and effects of three actions: Paradise Emergency Repair of Federally-Owned Road (Paradise ERFO), Little Rock Creek Road-Related Restoration (LRC restoration), and the Tiller Ranger District’s 1998 grazing program (Tiller grazing). This consultation on UNF actions is conducted under section 7(a) (2) of the ESA and its implementing regulations, 50 CFR 402.

The UR cutthroat (*Oncorhynchus clarki clarki*) was listed as endangered under the ESA by the NMFS on August 9, 1996 (61 FR 41514), and critical habitat for this species was designated on January 9, 1998 (63 FR 1388). The OC coho salmon (*O. kisutch*) and OC steelhead trout (*O. mykiss*) Evolutionarily Significant Units (ESUs) were proposed as threatened under the ESA by NMFS on July 25, 1995 (60 FR 38011) and August 9, 1996 (61 FR 41541), respectively. The OC coho and OC steelhead ESUs were reclassified as candidates for listing under the ESA by NMFS on May 6, 1997 (62 FR 24588) and March 19, 1998 (63 FR 13347) respectively, but the OC coho was subsequently listed as threatened on August 10, 1998 (63 FR 42587). Because of the OC coho listing, we have considered your LAA determination for this species simultaneously along with UR cutthroat in this consultation. This is because the NMFS has adopted a habitat-based “jeopardy” analysis (“Biological requirements and status...”[NMFS 1997d], “Application of Endangered Species Act standards to...” [NMFS 1997a] and the NMFS Biological Opinion and Conference Opinion on continued implementation of Land and Resource Management Plans of several National Forests and the Resource Management Plans of several BLM Districts [hereafter referred to as the LRMP/RMP Opinion] dated March 18, 1997 [NMFS 1997b]), and OC coho habitat is completely overlapped by that of UR cutthroat in these proposed actions.

UNF personnel made the effects determinations in the BAs following procedures described in NMFS (1997a, 1997b, and 1997d). The effects of the individual actions proposed in the BAs were evaluated by UNF biologists at the project scale using criteria based upon the biological requirements of UR cutthroat and other potentially affected anadromous salmonids and the Aquatic Conservation Strategy (ACS) objectives of the Northwest Forest Plan (NFP, USDA and USDI 1994). The UNF biologists also evaluated the likely effects of the proposed actions on the watershed scale, and in the long-term, in the context of watershed processes. The Level 1 streamlined consultation team for the UNF has defined “long-term” for ESA consultation purposes as about a decade, while short-term effects would occur for a lesser period, most typically a few months to a few years. The Level 1 streamlined consultation team for the UNF met on July 10, 20, 24 and 28, 1998 to review the UNF’s effect determinations and documentation of ACS consistency for the subject actions. The team concurred on the ACS consistency analyses and most of the effects determinations.

### **Proposed Actions**

The “proposed actions” are road-related activities in the Jackson Creek fifth field hydrologic unit code<sup>1</sup> (HUC) and cattle grazing in the Elk Creek and Upper Cow Creek fifth field HUCs of the South

---

<sup>1</sup> Stream drainages can be arranged in nested hierarchies, in which a large drainage is composed of smaller drainages. The UNF uses a system in which these drainages are numbered in a computer data base for analytical purposes. The numerical identifier of a particular drainage in this data base (which is located in a specific column or “field” in the data base), is called its hydrologic unit code, or HUC. This HUC increases with decreasing drainage area, thus a fourth field HUC (such as the South Umpqua River) is composed of several fifth field HUCs (such as Jackson Creek, Upper Cow Creek, etc.), and so on. The NFP determined that the scale for Watershed Analyses should be 20 to 200 square miles, which often corresponds to a fifth field HUC.

Umpqua River, and road upgrade and decommissioning in the Steamboat Creek fifth field HUC of the North Umpqua River, in Douglas County, Oregon. Specifically, in the Jackson Creek fifth field HUC (a fifth field HUC will be considered a “watershed” for consultation purposes), the Paradise ERFO project is proposed for the Crooked Creek and Lower Squaw Creek sixth field HUCs; Tiller grazing is proposed for the Upper Elk Creek sixth field HUC in the Elk Creek watershed, and the Upper Cow Creek sixth field HUC of the Upper Cow Creek watershed; and LRC restoration is proposed for the Little Rock Creek sixth field HUC of the Steamboat Creek watershed. An Environmental Assessment (EA), Biological Evaluations (BEs) and other documents, which were appended to the UNF’s BAs, have detailed information on each of the actions, but brief summaries are provided below.

In the Paradise ERFO project, the UNF proposes to repair five sites on the FS 6800-100 road, and one site on the FS 6800-200 road. These roads were damaged by landslides and the repair work would include installation of gabion buttresses, reinforcement of sub-grades, replacement of damaged culverts, placement of pit run fill, creation of a low-water ford, and removal of slide debris. In the FS 6800-100 road system, the UNF also proposes to upgrade 6.21 miles of road (repair of stream crossings and resizing culverts to pass 100-year flood event), to inactivate 8.45 miles of road (barriers to vehicle use, removing culverts, and waterbarring), and to obliterate 3.48 miles of road (culvert removal, ripping, recontouring, planting, etc.). Some of the proposed repairs would occur within Riparian Reserves (RRs) of non-fish bearing streams, as would some of the road upgrading, inactivation, and obliteration. Work in the streams would occur during the Oregon Department of Fish and Wildlife (ODFW) in-water work period of July 1 through September 15.

Grazing in the Tiller Ranger District in 1998 is proposed to occur in only two of the six allotments that have been used in recent years. The allotments proposed for grazing in 1998 are the Divide allotment in the Elk Creek watershed, and the Diamond Rock allotment in both the Elk Creek and Upper Cow Creek watersheds (and also the Trail Creek watershed of the Rogue River basin). The UNF’s proposal would reduce the number of cow/calf pairs on the Tiller District by more than half, would keep cattle off the most sensitive allotments, and would reduce the streambank alteration standard. Specific standards for forage utilization in riparian and upland areas would be enforced, and multiple monitoring methods would be implemented.

In the Steamboat Creek watershed, the UNF proposes to reduce landslide and debris flow rates associated with roads and to reduce the extent of floodplain influence by roads in the Little Rock Creek sixth field HUC. To accomplish these objectives in the LRC restoration, the UNF proposes to decommission approximately 24 miles of road and to stormproof approximately 13.7 miles of road. Decommissioning includes the following measures, which would not leave a driveable surface: eliminating mass wasting risk, outsloping road surfaces, removing all stream crossings and relief culverts, removing roadfills from floodplain areas, and vegetatively restoring road surfaces. Stormproofing would leave a driveable road surface, but measures would be taken to reduce mass wasting risk, minimize risk of culvert plugging and diversion, and improve road drainage to prevent concentration of water. Some of the work proposed in the LRC restoration would occur in RR’s and in-water work would occur during ODFW’s window of July 1 through September 15.

## **Biological Information and Critical Habitat**

The biological requirements (including the elements of critical habitat) of each of the ESUs are discussed in the LRMP/RMP Opinion, NMFS (1997b) and in NMFS (1997c). Environmental baseline conditions in the Umpqua Basin are discussed in Johnson et al. (1994), pages 2-7 of NMFS (1997c) and pages 13-14 of the LRMP/RMP Opinion. Cumulative effects as defined under 50 CFR 402.02 are discussed for the Umpqua Basin on pages 40-43 of the NMFS LRMP/RMP Opinion. These respective analyses are incorporated herein by this reference. NMFS is not aware of any newly available information that would materially change these previous analyses of biological requirements, environmental baseline or cumulative effects for the purpose of this Opinion. Some general biological information is provided below.

UR cutthroat inhabit the Umpqua River Basin of southwest Oregon and the Evolutionarily Significant Unit (ESU) consists of resident, potamodromous, and anadromous life histories. Individuals of all three forms have the potential to inhabit the Jackson Creek, Elk Creek, Upper Cow Creek and Steamboat Creek watersheds. UR cutthroat are known to be year-around inhabitants (using rearing, feeding, spawning, and incubation habitat) of all of the subject watersheds. The watersheds are likely used as migration corridors by both adults and juveniles of the ESU. Historically, adult anadromous cutthroat trout passed Winchester Dam (on the North Umpqua River) predominantly from late June through November, with peaks in mid-July and mid-October, while juvenile outmigration is thought to occur chiefly from March through October (Johnson et al. 1994).

OC coho are an anadromous species which typically have a three-year life-cycle, and occur in all four subject watersheds. Adults spawn in the late fall and winter, with fry emergence occurring the following spring. Juvenile coho salmon rear for about a year in natal streams, and then outmigrate to the ocean as smolts in the spring. Some male coho return to freshwater to spawn the fall and winter of the same year as their smolt migration, but the majority of adult OC coho do not return to spawn until having spent about 18 months in the ocean. Thus, an active OC coho stream would be used for some life-stage as rearing, feeding, spawning, and incubation habitat year-around.

The UNF's Watershed Analysis (WA, TRD [1995a]) for Jackson Creek lists approximately 70 miles of stream in that watershed inhabited by anadromous or resident salmonids (including OC coho and UR cutthroat). Prior to the construction of Galesville Dam, approximately 18 miles of the UNF-managed portion of the Upper Cow Creek watershed supported anadromous fish runs, and another 19 miles supported resident salmonids (Cow Creek WA, TRD [1995b]). In the Upper Steamboat Creek WA (NURD 1997), the UNF estimated that approximately 40 miles of stream were fish bearing. Similar estimates were not available for the Elk Creek watershed, but it likely provide dozens of miles of habitat for anadromous and resident salmonids.

Although general information about the populations of UR cutthroat and OC coho within the Jackson, Elk, Upper Cow, and Steamboat Creek watersheds is available (e.g., those streams likely inhabited, see above), specific information on the size and health of anadromous fish populations in the Umpqua

Basin is often lacking or incomplete. Because of the general paucity of the type of information that would allow the UNF and NMFS to assess the relative health of anadromous salmonid populations on a stream or watershed scale, and the fact that all fish species, populations, and individuals depend on adequate habitat, the NMFS uses a habitat-based system in ESA consultation on land-management activities (NMFS 1997d). The NMFS has applied the concept of Properly Functioning Condition (PFC) to assess the quality of the habitat that fish need to survive and recover. This concept is discussed in the next section.

Site-specific environmental baseline descriptions and effects determinations were made by UNF personnel for each of the proposed actions. This information is found in the project-level (sixth field HUC) Matrices of Pathways and Indicators (MPIs) which were included in the BAs. In addition, watershed-level information on UR cutthroat and OC coho habitat is provided in the fifth field MPIs also included in the BAs. The NMFS concurred with these project and watershed-scale environmental baseline descriptions and effects determinations in the streamlined consultation process and NMFS considered them in addition to the broad scale analysis done for the LRMP/RMP Opinion described above.

### **Evaluation of Proposed Actions**

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by the consultation regulations (50 CFR 402). NMFS (1997a) describes how NMFS applies the ESA jeopardy and destruction/adverse modification of critical habitat standards to consultations for Federal land management actions in the Umpqua River basin.

As described in NMFS (1997a), the first steps in applying the ESA jeopardy standards are to define the biological requirements of UR cutthroat and OC coho and to describe the species' current status as reflected by the environmental baseline. In the next steps, NMFS' jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species' biological requirements and the existing conditions under the environmental baseline (defined in NMFS 1997c). The analysis takes into consideration an overall picture of the beneficial and detrimental activities taking place within the action area, which is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). If the net effect of the activities is found to jeopardize the listed species, then NMFS must identify any reasonable and prudent alternatives to the proposed action.

**Biological Requirements.** For this consultation, NMFS finds that the biological requirements of UR cutthroat and OC coho are best expressed in terms of current population status and environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the species. The NMFS defines this "properly functioning condition" (PFC) as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the

biological requirements of the fish species of interest. Individual, measurable habitat factors (or indicators) have been identified (e.g., water temperature, substrate, etc.), and the “properly functioning” values for these indicators have been determined, using the best information available. These indicators, when considered together, provide a summary of the conditions necessary to ensure the long-term survival of aquatic species.

The NMFS has assembled a set of these indicators in a form called the Matrix of Pathways and Indicators (MPI, NMFS 1996). The MPI is a table that lists several categories or “pathways” of essential salmonid habitat, such as water quality, instream habitat elements, and flow/hydrology. Under these pathways are quantitative habitat indicators for which ranges of values are identified that correspond to a “properly functioning” condition, an “at risk” condition, and a “not properly functioning” condition. Because these habitat measurements are more readily available than quantitative measurements of biological variables such as incubation success, standing crop, and growth rate, the NMFS and UNF are able to assess the health of stream reaches or watersheds based on the condition of their component indicators. Such an assessment provides a baseline description of the health of the stream/watershed, and also allows the effects of an action (e.g., road-related activities) to be evaluated.

Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of the listed species. It follows, then, that the NMFS has determined that an action which would cause the habitat indicators of a watershed to move to a degraded condition, or one which further degrades a “not properly functioning” watershed, is also likely to jeopardize the continued existence of the listed species.

In addition to the use of the MPI at the watershed level to assist in making “jeopardy” determinations in Section 7 consultations (especially for land management agencies), the NMFS also uses the MPI at the site or project scale. Assuming that a Federal agency determines that an action is a “may affect,” either informal or formal consultation is required. To assist in this determination, the action agency prepares a project-level MPI. If no “degrades” occur at this scale, then the action is probably not likely to adversely affect individuals of a listed species, and an informal Section 7 consultation is appropriate. If the proposed action degrades any of the indicators at this smaller scale (often the sixth or seventh field HUC), then the action is generally considered to be a “likely to adversely affect,” and formal consultation must occur.

Current range-wide status of listed species under environmental baseline. NMFS described the current population status of the UR cutthroat in its status review (Johnson et al. 1994) and in the final rule (August 9, 1996, 61 FR 41514). Critical habitat for UR cutthroat was designated by the NMFS on January 9, 1998 (63 FR 1338). NMFS also described the current population status of OC coho in a status review (Weitkamp et al. 1995), and in the final rule (August 10, 1998, 63 FR 42587). The recent range-wide status of both these species is summarized in NMFS (1997c).

Current status of listed species under environmental baseline within the action areas. As noted above, the “action area” includes all areas directly or indirectly affected by the proposed action. The general action areas can be defined as the Jackson, Elk, Upper Cow, and Steamboat Creek watersheds.

As noted above, UR cutthroat and OC coho use the action areas as rearing, feeding, spawning, and incubation habitat, as well as a migration corridor. The environmental baseline of the action areas are dominated by conditions rated largely as “not properly functioning” or “at risk” (see watershed MPIs in BAs). These conditions are likely primarily the result of past forest management and agricultural practices, in particular, timber harvest/clearing within riparian zones, large-scale clear-cut timber harvest, road construction (especially within riparian zones), and timber yarding in riparian zones and streams.

Indicators particularly at issue in this consultation are those which would likely be degraded by the proposed actions at the project scale, although the NMFS has also reviewed the UNF’s “maintain” and “restore” effects determinations. In this case “sediment” and “substrate” were determined to be degraded at the project scale by two of the three actions, and were listed as “not properly functioning” for all three of the South Umpqua basin subject watersheds and “at risk” for the Steamboat Creek watershed.

Based on the best information available on the current status of UR cutthroat and OC coho (NMFS 1997c), NMFS assumptions given the information available regarding population status, population trends, and genetics (NMFS 1997a), and the relatively poor environmental baseline conditions within the action areas (see MPIs in BAs and UR cutthroat and OC coho final listing rules), NMFS finds that the environmental baseline does not currently meet all of the biological requirements for the survival and recovery of the listed species within the action area. Actions that do not retard attainment of properly functioning aquatic conditions, when added to the environmental baseline, are necessary to meet the needs of the species for survival and recovery.

### **Analysis of Effects**

The effects determinations in this opinion were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of actions on them. This process is described in the document “Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996). This assessment method (in which MPIs are assembled by action agency biologists) was designed for the purpose of providing adequate information in a tabular form for NMFS to determine the effects of actions subject to consultation.

The UNF uses the MPI to make project-level effects determinations: whether an action is “not likely to adversely affect” or “likely to adversely affect” (LAA) the ESA-listed species (in this case, UR cutthroat and OC coho). If any of the indicators is thought to be degraded at the project level by the action, the action is determined to LAA. In turn, if a project was determined to LAA the ESA-listed species, then, based on the “jeopardy” standard delineated in the LRMP/RMP Opinion, the UNF must

determine whether the project, when combined with the environmental baseline for the watershed over the long-term, is consistent with the ACS of the NFP. This “consistency” is condensed to a two-part test in the LRMP/RMP Opinion (NMFS 1997a, pg. 14): Is the proposed action in compliance with the standards and guidelines for the relevant land allocation, and does the proposed action meet all pertinent ACS objectives? This determination is made with the assistance of the MPI at the watershed scale.

Project-Level Effects. The UNF-provided MPIs for the effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project area for each sixth field HUC affected by the proposed actions. The results of the completed checklist for the proposed action provides a basis for determining the effects of the action on the environmental baseline in the project area.

In this consultation, the UNF provided an MPI for one sixth field HUC for each of two of the actions, while two sixth field HUC MPIs were provided for Tiller grazing. In general, the UNF determined the actions would not degrade indicators at the project level, chiefly because of the maintenance/enhancement of the riparian zones.

*Paradise ERFO.* For Paradise ERFO, the UNF found that on the project level, the “sediment” and “substrate”, indicators would be degraded due to the action, and all other indicators would be maintained. The UNF attributes the “degrade” checkmark for “sediment” and “substrate” to a transitory increase in stream sedimentation, due to road repair, upgrading, inactivation, and obliteration, including culvert replacement and removal. Because of the presence of the “degrades” checkmarks on the project scale, caused by possible short-term, localized sedimentation, the UNF determined that Paradise ERFO is likely to adversely affect UR cutthroat trout. The NMFS concurs with the UNF on this project-level effect determination.

*Tiller grazing.* For Tiller grazing, the UNF found (as shown in the two sixth field MPIs) that all indicators would be maintained. The UNF believes that the indicators would be maintained primarily because: (1) only incidental riparian vegetation utilization and streambank damage due to livestock will be permitted, (2) little of the particularly sensitive earthflow terrain exists in the two allotments, (3) grazing will be limited to periods when occupied UR cutthroat redds should not be present, (4) less than three months of grazing remained in the calendar year when the BA was submitted, and (5) intensive monitoring of grazing effects will allow timely corrective actions to occur. Although such a finding would often lead to a “not likely to adversely affect” (NLAA) determination (and this determination was originally made by the UNF), the Level 1 team felt that the potential for a direct incidental take of UR cutthroat was more than negligibly likely. The team felt that entry of cattle into stream channels or immediately adjacent riparian zones had the potential to disturb individuals of this species, possibly to the point of harassment. The majority of the Level 1 team also felt, however, that the action was very close to being NLAA.



*LRC restoration.* The UNF found that on the project level, the “sediment” and “substrate” indicators would be degraded due to the LRC restoration, that most of the other indicators would be maintained, and that the remaining seven indicators would be restored. While the NMFS concurs that the action would move many of the indicators toward restoration, we feel that none (with the possible exception of “physical barriers”) would be moved fully to the “restore” category in the short-term. The UNF attributes the “degrade” checkmark for “sediment” and “substrate” to a transitory increase in stream sedimentation due to road decommissioning and stormproofing, including culvert replacement and removal. Because of the presence of the “degrade” checkmarks on the project scale, caused by possible short-term localized sedimentation, the UNF determined that LRC restoration is likely to adversely affect UR cutthroat trout. The NMFS concurs (with the exceptions noted above) with the UNF on this project-level effects determination.

Watershed-Level Effects. In the BAs, the UNF provided watershed-scale MPIs for each of the three actions, along with ACS Consistency reviews for each action. The watershed-scale MPIs evaluate the effects of the proposed action on habitat indicators in the fifth field HUC relative to the long-term environmental baseline. That is, while many actions (including those that may be beneficial in the long-term) have short-term, small-scale adverse effects, only those actions which would adversely affect the environmental baseline over an entire watershed over a long period would receive a “degrade” checkmark. It is important to realize that both active and passive restoration activities contribute to the environmental baseline. In particular, the passive restoration that will occur over the long-term (at least a decade, see above), especially in RRs, is a principal component of the watershed recovery aspect of the NFP. The role of RRs, LSRs, etc., in restoration of watersheds is described in the NFP ROD (USDA and USDI 1994) and in the LRMP/RMP Opinion (NMFS 1997b).

The ACS consistency reviews included a description of how the proposed projects compared to the applicable NFP standards and guidelines (S&Gs) for the listed ESUs and how the proposed projects complied with the nine ACS objectives for those ESUs. Because there is strong correspondence between the habitat indicators of the MPI and the ACS objectives, it is likely that if none of the habitat indicators in the watershed level MPI is degraded by an action, then Compliance with ACS objectives for the ESUs is also achieved. In the descriptions below, only those MPI habitat indicators which were determined to “degrade” at the sixth field HUC are discussed; similarly, the S&Gs and ACS objectives which may be of issue are noted. Whether discussed below or not, information on all of the habitat indicators, relevant S&Gs, and ACS objectives was provided in the UNF’s BAs and was considered in our analysis.

*Jackson Creek watershed.* Paradise ERFO is proposed for the Jackson Creek watershed, which, as part of the Upper South Umpqua River basin, is a Tier 1 Key Watershed. For this action, the UNF determined that all of the habitat indicators would be maintained at the Jackson Creek watershed scale, despite the project-level “degrades” which were recorded in the Crooked and Lower Squaw Creek sixth field HUCs. As noted under “Project-level effects,” above, the “sediment” and “substrate” indicators were thought to be degraded due to road-related actions such as repair, upgrading, inactivation, and obliteration. In the long-term and at the watershed scale, however, these “degrades”

were not thought to be consequential, because of their short-term and highly localized nature. Road repair and upgrading, in fact, are likely to diminish the adverse effects of roads by preventing or minimizing future landslides and by allowing the drainage design features to work properly, and inactivation and obliteration should have even greater beneficial effects to the watershed.

During the next ten years, other UNF actions in the Jackson Creek watershed will be proposed, but (according to the UNF's ACS consistency review) approximately 60% of the Federal land in the watershed is protected as LSR, Wilderness, or Research Natural Area, and an additional large proportion of the rest of the watershed is protected as RR. Therefore, in excess of two-thirds of the Federal forest land in the watershed (and all of the RR-- the most important portion, from an anadromous fish viewpoint) will be protected from non-restorative activities, so that future non-restorative activities (such as timber harvest) proposed for Matrix lands should not retard the recovery of the watershed as a whole.

Based on the EA and ACS Consistency Review for Paradise ERFO, it appears that all of the relevant S&Gs would be observed by the UNF and that compliance with the nine ACS objectives would be achieved.

*Elk Creek and Upper Cow Creek watersheds.* The UNF has proposed to allow grazing on the Divide and Diamond Rock allotments in 1998. Divide is entirely within the Elk Creek watershed, while Diamond Rock occurs in both the Elk Creek and Upper Cow Creek watersheds. Elk Creek, as part of the Upper South Umpqua River basin, is a Tier 1 Key Watershed, but Upper Cow Creek is not. The UNF determined, as shown in the MPIs provided in the BA, that all of the habitat indicators would be maintained at both the project and watershed scale. As discussed under "Project-level effects," above, however, the UNF believes that there is some potential for direct incidental take of UR cutthroat to occur from livestock. Even though there would not likely be more than negligible effects to aquatic and riparian habitat from Tiller grazing, from the UNF's ACS consistency review, it appears that all of the relevant S&Gs would be observed and compliance with the nine ACS objectives would also be achieved.

*Steamboat Creek watershed.* For this watershed, a Tier 1 Key Watershed under the NFP, the UNF has proposed to conduct the LRC restoration. The UNF determined that all of the habitat indicators would be maintained or restored at the watershed scale, despite the two project-level "degrades" which were recorded in the Little Rock Creek sixth field HUC. As noted under "Project-level effects," above, the "sediment" and "substrate" indicators were thought to be degraded due to road decommissioning and stormproofing. As discussed under Paradise ERFO, however, these "degrades" were not thought to be consequential in the long-term and on the watershed scale. In fact, the action is beneficial over the long-term. However, while LRC restoration would be beneficial over the long-term, we do not concur that full restoration (in the sense that the MPI is currently interpreted) would occur over the ten-year period for which consultation is appropriate.

During the next ten years, other UNF actions in the Steamboat Creek watershed will be proposed, but (according to the UNF's WA) all of the Federal land in the Upper Steamboat Creek portion of the

watershed will be protected as LSR, and will be protected from non-restorative activities. Based on the EA and ACS Consistency Review for Paradise ERFO, it appears that all of the relevant S&Gs would be observed by the UNF and that compliance with the nine ACS objectives would be achieved.

**Effects Summary.** NMFS has considered the applicability of these analyses to each of the actions identified in the BAs and in this letter. The NMFS is not aware of any other special characteristics of the particular actions that would cause greater or materially different effects on the subject salmonid species and their habitat than is discussed in these references. Similarly, NMFS is not aware of any newly available information that would materially change these previous effects analyses. Portions of all of the watersheds discussed in this Opinion are privately-owned, and the NMFS assumes that the cumulative effects of non-Federal land management practices will continue at similar intensities as in recent years (LRMP/RMP Opinion, pgs. 41-42, NMFS 1997b).

The effects of the actions on UR cutthroat and its habitat are presented in the BAs prepared by the UNF, specifically in the project and watershed-level MPIs, BEs, ACS Consistency Reviews, and the EA. NMFS finds those descriptions to be adequate for this analysis. Based on this information, the NMFS does not consider these actions to be likely to result in more effects than expected or considered in the LRMP/RMP Opinion (1997b). In particular, the UNF determined, and the NMFS concurred, that relevant NFP S&Gs would be followed, and that ACS objectives would be met at the watershed scale and in the long term when the effects of the proposed actions are combined with the environmental baseline. This ACS consistency determination was made because the UNF showed that, despite the potential short-term adverse effects of their proposed actions, watershed habitat indicators would be maintained or restored over the long-term.

The NMFS expects that ACS objectives which may be affected by the subject actions will be met because: 1) potential sediment input from proposed road repair, upgrade, inactivation, obliteration, decommissioning, and stormproofing will be minimized by implementation of appropriate Best Management Practices, and the long-term effects of these actions should be beneficial because of lessened sediment and hydrologic effects from existing and former roads; and 2) cattle grazing should have only incidental and small effects on riparian and aquatic habitat. Despite the minor, short-term adverse effects, these actions maintain or restore essential habitat functions, and will not impede recovery of salmonid habitat, a long-term goal of the NFP.

In addition, although Tiller grazing may cause some low-level direct incidental take, survival and recovery of UR cutthroat and OC coho would not be appreciably diminished by the proposed action. This is because all individuals of these species present in the streams of the Divide and Diamond Ridge allotments should be able to avoid physical injury from hooves, should cattle enter the stream channels they inhabit. Completely or substantially immobile eggs and emergent fry would not be present during the remaining proposed grazing period, nor would any spawning occur during this period. It is possible that individual fish of these species would be frightened enough by in-stream cattle activity that rearing and feeding could be substantially disrupted, and that this could cause a decrease in the rate of growth of some individuals. But, because of the relatively small number of cattle and their enforced incidental

use of riparian zones, as well as the high mobility of salmonids and the potential for acclimation to cattle presence, it seems unlikely that individual fish would be harassed sufficiently to suffer mortality or reproductive failure as a result of the proposed action.

### **Section 7(a)(2) Determinations**

The NMFS concludes that, when the effects of these proposed site specific actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of UR cutthroat trout, OC coho salmon, or OC steelhead trout.

Additionally, the NMFS concludes that the proposed actions would not cause adverse modification or destruction of UR cutthroat critical habitat. This is because our “no jeopardy” conclusion is based on the effects of the actions on UR cutthroat habitat, and because the “adverse modification or destruction of habitat” standard is defined similarly to the “jeopardy” standard. Because we have determined that the actions would not jeopardize the continued existence of UR cutthroat, it follows that UR cutthroat would not be adversely modified or destroyed.

In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BAs and documents incorporated by reference.

### **Incidental Take Statement**

Effects resulting from road-related activities (e.g., sedimentation), and from harassment of UR cutthroat and OC coho by cattle are expected to be the sources of incidental take associated with the proposed actions covered by this Opinion. Because of the implementation of appropriate mitigation measures for the road-related activities, sediment impacts are expected to be minimized. Incidental take due to Tiller grazing should also be minimized because of the nature of the activity and monitoring of the allotments.

Adverse effects of management actions such as these are largely unquantifiable in the short-term and may not be measurable as long-term effects on the species’ habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur as a result of these actions, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species themselves.

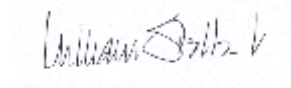
The incidental take statement in the LRMP/RMP Opinion (NMFS 1997b) provided reasonable and prudent measures and terms and conditions to avoid or minimize the take of listed salmonids from beneficial road-related actions (pgs. 64 and 70) and from cattle grazing (pgs. 65-66 and 72-73) that may be applied to site-specific actions, if appropriate. NMFS hereby applies the findings, reasonable and prudent measures, and terms and conditions set forth in the Incidental Take Statement of the programmatic LRMP/RMP Opinion (NMFS 1997b) to the relevant site-specific actions.

## **Conclusions**

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1). The UNF must reinitiate this ESA consultation if: (1) the amount or extent of taking specified in the incidental take statement above, is exceeded; (2) new information reveals effects of the action that may affect listed species in a way not previously considered; (3) the action is modified in a manner that causes an effect to the listed species that was not previously considered; or (4) a new species is listed or critical habitat designated that may be affected by identified action.

If you have any questions, please contact Dan Kenney of my staff at (541) 957-3385.

Sincerely,

A handwritten signature in blue ink, appearing to read "William Stelle, Jr.", is positioned above a faint, light blue rectangular stamp.

William Stelle, Jr.  
Regional Administrator

## References

- Johnson, O.W., R.S. Waples, T.C. Wainwright, K.G. Neely, F. W. Waknitz, and L. T. Parker. 1994. Status review of Oregon's Umpqua River sea-run cutthroat trout. National Marine Fisheries Service, Coastal Zone and Estuarine Studies Division, Seattle, Washington.
- National Marine Fisheries Service (NMFS). 1996. Making Endangered Species Act determinations of effect for individual or grouped actions at the watershed scale. NMFS, Northwest Region, Seattle, Washington. August 1996.
- National Marine Fisheries Service (NMFS). 1997a. Application of Endangered Species Act standards to: Umpqua River cutthroat trout, Oregon Coast coho salmon, Southern Oregon/Northern California coho salmon, Oregon Coast steelhead, Klamath Mountain Province steelhead, Lower Columbia steelhead, chum salmon, chinook salmon, and sea-run cutthroat trout. NMFS, Northwest Region, Seattle, Washington. February, 1997.
- National Marine Fisheries Service (NMFS). 1997b. Biological Opinion and Conference Opinion on Implementation of Land and Resource Management Plans (USFS) and Resource Management Plans (BLM) on the Oregon Coast. NMFS, Northwest Region, Seattle, Washington. Biological Opinion and three attachments. March 18, 1997.
- National Marine Fisheries Service (NMFS). 1997c. Biological requirements and status under 1996 environmental baseline: Umpqua River cutthroat trout, Oregon Coast coho salmon, Oregon Coast steelhead, Southern Oregon/Northern California coho salmon, Klamath Mountain Province steelhead, Lower Columbia steelhead, and chum salmon. NMFS, Northwest Region, Seattle, Washington. September, 1997.
- NURD (North Umpqua Ranger District). 1997. Upper Steamboat Creek watershed analysis. Umpqua National Forest, Glide, Oregon.
- TRD (Tiller Ranger District). 1995a. Jackson Creek watershed analysis. Umpqua National Forest, Tiller, Oregon. March, 1995.
- TRD (Tiller Ranger District). 1995b. Cow Creek watershed analysis. Umpqua National Forest, Tiller, Oregon. September, 1995.
- TRD (Tiller Ranger District). 1996. Elk Creek watershed analysis. Umpqua National Forest, Tiller, Oregon. October, 1996.

United States Department of Agriculture and United States Department of the Interior  
(USDA and USDI). 1994. Record of Decision for amendments to Forest Service and Bureau  
of Land Management planning documents within the range of the northern spotted owl.  
Washington, D.C. April 13, 1994.

Weitkamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S.  
Waples. 1995. Status review of coho salmon from Washington, Oregon, and California.  
National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle,  
Washington.